

REMARKS

This Amendment is submitted in response to the final Office Action mailed on November 7, 2008. A Request for Continued Examination ("RCE") (\$810.00) is submitted herewith. The Director is authorized to charge \$810.00 for the RCE and any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112857-447 on the account statement.

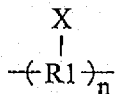
Claims 18-19 and 21-34 are pending in this application. Claims 1-17 and 20 were previously canceled without prejudice or disclaimer. Claims 22-34 were previously withdrawn from consideration. In the Office Action, Claim 18 is rejected under 35 U.S.C. §112. Claims 18-19 and 21 are rejected under 35 U.S.C. §103. In response, Claim 18 has been amended. This amendment does not add new matter. At least in view of the amendment and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claim 18 is rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. The Patent Office asserts that the limitation "an integrated complex compos[ed] of" the first and second claimed compounds is not supported by the Specification. See, Office Action, page 3, lines 1-7. In response, Applicants have amended Claim 18 to recite "an impregnated complex composed of" the first and second claimed compounds. This amendment does not add new matter. The amendment is supported in the Specification at, for example, page 1, paragraph 3, lines 5-7; paragraph 9, lines 1-6; page 3, paragraph 34, lines 1-7; page 4, paragraph 48, lines 1-5; page 5, paragraph 59, line 1; paragraph 62, lines 1-7; paragraph 66, lines 1-20; paragraph 71, lines 1-5; page 6, paragraph 86, lines 1-4; page 7, paragraph 95, lines 1-4 and 8-12; paragraph 97, lines 1-4 and 12-15; pages 7-8, paragraph 101, lines 1-4 and 7-13; page 9, paragraph 113, lines 3-6; paragraph 125, lines 1-8.

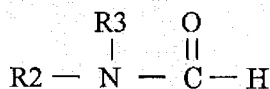
Accordingly, Applicants respectfully request that the rejection of Claim 18 under 35 U.S.C. §112, first paragraph, be withdrawn.

In the Office Action, Claims 18-19 and 21 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2002/0160272 A1 to Tanaka et al. ("*Tanaka*"). In response, Applicants have amended independent Claim 18. In view of the amendment and/or for at least the reasons set forth below, Applicants respectfully submit that *Tanaka* fails to disclose or suggest each and every element of the present claims.

Currently amended independent Claim 18 recites, in part, a proton conductor, including an impregnated complex composed of: a first compound having a first structural part having a first formula:



where R1 represents a component including carbon, X represents a protoic dissociation group, and $n \leq 1$; and a second compound having a second structural part having a second formula:



where R2 and R3 represent a component including carbon or hydrogen, respectively, wherein a number of moles of the first compound is a, a number of moles of the second compound is b, and a ratio of the number of moles b to the number of moles of the protoic dissociation group ($a \times n$) is greater than or equal to 10 and less than or equal to 30, wherein the first compound is a film into which the second compound is impregnated. These amendments do not add new matter. The amendments are supported in the Specification at, for example, page 1, paragraph 3, lines 5-7; paragraph 9, lines 1-6; page 3, paragraph 34, lines 1-7; page 4, paragraph 48, lines 1-5; page 5, paragraph 59, line 1; paragraph 62, lines 1-7; paragraph 66, lines 1-20; paragraph 71, lines 1-5; page 6, paragraph 86, lines 1-4; page 7, paragraph 95, lines 1-4 and 8-12; paragraph 97, lines 1-4 and 12-15; pages 7-8, paragraph 101, lines 1-4 and 7-13; page 9, paragraph 113, lines 3-6; paragraph 125, lines 1-8. In contrast, *Tanaka* fails to disclose or suggest every element of the present claims.

For example, *Tanaka* fails to disclose or suggest a proton conductor, including an impregnated complex composed of a first compound having a first structural part of the first claimed formula and a second compound having a second structural part of the second claimed formula, wherein the first compound is a film into which the second compound is impregnated as recited, in part, by currently amended independent Claim 18. The Patent Office asserts that *Tanaka* discloses an integrated complex of the first and second claimed compounds merely because the membrane of *Tanaka* comprises the first and second claimed compounds for the same utility. See, Office Action, page 4, lines 16-18. However, *Tanaka* is entirely directed to

merely contacting a solid polymer electrolyte of the first claimed formula with an amide compound of the second claimed formula. See, *Tanaka*, Abstract, lines 1-4; page 2, paragraph 25; page 3, paragraph 45; page 4, paragraph 59. Once the solid polymer electrolyte has been in contact with the amide compound for the desired amount of time, the amide compound is rinsed off of the solid polymer electrolyte. See, *Tanaka*, page 11, paragraph 157, lines 11-12; paragraph 170, lines 1-4; page 12, paragraph 171, lines 1-6; page 14, paragraph 188, lines 1-6; paragraph 192, lines 1-5; page 15, paragraph 201, lines 1-6. Nowhere does *Tanaka* disclose or suggest that the amide compound is impregnated into the solid polymer electrolyte, nor does the Patent Office cite support for such claimed element. Therefore, Applicants respectfully submit that the modified electrolyte of *Tanaka* is not an impregnated complex in which a compound of the second claimed formula is impregnated into a film of the first claimed formula.

In fact, *Tanaka* is entirely directed to reaction of the amide compound with the solid polymer electrolyte to cause crosslinking of the polymer chains. See, *Tanaka*, page 4, paragraph 63; page 5, paragraphs 78, 81-82 and 86; page 6, paragraphs 87-88; page 10, paragraph 147. When the protoic dissociation groups of the solid polymer electrolyte react with the amine compound to crosslink the polymer chains, the protoic dissociation groups are consumed. See, *Tanaka*, page 10, paragraph 147. Once such groups are consumed, the first and second claimed compounds are chemically altered and cease to exist. As such, the resulting modified electrolyte does not contain an impregnated complex of the first and second claimed compounds but rather an entirely new compound. See, *Tanaka*, page 16, Chemical formulas 3 and 4. Therefore, *Tanaka* fails to disclose an impregnated complex composed of a first compound having a first structural part of the first claimed formula and a second compound having a second structural part of the second claimed formula, wherein the first compound is a film into which the second compound is impregnated in accordance with the present claims.

Moreover, *Tanaka* fails to disclose or suggest an impregnated complex composed of a first compound and a second compound wherein a number of moles of the first compound is a, a number of moles of the second compound is b, and a ratio of the number of moles b to the number of moles of the protoic dissociation group ($a \times n$) is greater than or equal to 10 and less than or equal to 30 as recited, in part, by the present claims. The Patent Office admits that *Tanaka* fails to disclose the claimed mole ratio but nevertheless asserts that one of ordinary skill would have optimized the range through routine experimentation absent a showing of

unexpected results. See, Office Action, page 5, lines 1-16. However, Applicants respectfully submit that one of ordinary skill in the art would not have arrived at the presently claimed range from *Tanaka* based on mere routine experimentation because *Tanaka* fails to recognize any relationship between the number of moles of the second compound and the number of moles of the protoic dissociation group. Instead, *Tanaka* merely discloses that the electrical conductivity is generally higher when the number of side chains and/or terminal acid groups is increased. See, *Tanaka*, page 7, paragraph 102, lines 4-8. *Tanaka* teaches controlling the conductivity based only on the number and kind of acid or protoic dissociation groups, not based on the molar ratio of those groups to that of the amine compound. See, *Tanaka*, page 7, paragraph 102, lines 8-13. As such, one of ordinary skill in the art reading *Tanaka* would have no reason to experiment with or modify the molar ratio of the amine compound to that of the protoic dissociation group. Furthermore, Applicants respectfully submit that the claimed mole ratios achieve unexpected results over other ranges. Such results are demonstrated in the Specification at, for example, page 4, paragraph 58; page 5, paragraph 59; page 10, Tables 1-2; and Figs. 1 and 5-7. Thus, *Tanaka* fails to disclose or suggest an impregnated complex composed of a first compound and a second compound wherein a number of moles of the first compound is a, a number of moles of the second compound is b, and a ratio of the number of moles b to the number of moles of the protoic dissociation group ($a \times n$) is greater than or equal to 10 and less than or equal to 30 as required, in part, by the present claims.

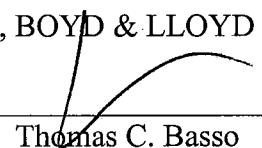
Accordingly, Applicants respectfully request that the rejection of Claims 18-19 and 21 under 35 U.S.C. §103(a) to *Tanaka* be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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Date: February 9, 2009